



**Reference Manual – 35B
Reference Manual for the Implementation of Sale of
National Park Service-Produced Utilities**

Draft

DRAFT FOR REVIEW

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Executive Summary

Director's Order 35B (DO 35B) replaces Special Directive 83-2. This Reference Manual (RM 35B) details the business practices and procedures that will be used for the application of DO 35B. The most substantial changes from Special Directive 83-2 resulting from DO 35B are the recovery of capital costs. This Reference Manual provides guidance on how to provide and manage a utility rate based on a formal rate base of physical attributes of each utility system; rate structures that measures the usage of the utility; and consistently applied costs of the operation, maintenance, component renewal, recapitalization and additions to the utility. This will be accomplished primarily by utilizing data from the Facility Management Software System (FMSS), and Project Management Information System (PMIS) to manage the rate base and the costs associated with the utilities.

The inclusion of the recovery of capital costs pertains to all capital and recapitalization projects completed after 1999. The cost recovery is expressed as a straight line cost for the life of the utility component and is distributed in the rate so that the cost recovery is distributed to all users of the utility, including the National Park Service, by the amount of usage that each entity utilizes. There are no lump sum or back payments involved.

1. Background

The Inspector General (IG) has conducted numerous evaluations of the National Park Service (NPS) utility programs. These evaluations have documented historical deficiencies and inconsistent applications in the collection and recovery of costs for utilities in accordance with Office of Management and Budget (OMB) guidelines. These unrecovered costs, in general, may limit a park's ability to fund other operational and maintenance (O&M) needs, meet the NPS mission, or potentially manage the infrastructure that serves the public.

In 1983, Special Directive 83-2 – “New Policy on NPS-Produced Utilities Rates” required parks to recover the O&M costs of NPS-provided utilities from non-NPS entities within national park areas. In 1985, Special Directive 83-2 was revised to recover indirect costs (overhead) and certain resource concerns. This revision also required that inflationary factors, such as yearly inflation rates or known federal pay increases, be applied to historical cost and comparable data. In general, Special Directive 83-2 required parks to establish utility rates based on actual operating costs, or comparable utility costs, whichever was greater. In 1990, a memorandum was sent from the Associate Director of Administration and Budget to the Field Directorate directing the recovery of capital costs; however, this memorandum was not implemented. It referenced the requirements of Special Directive 83-2, which directed parks to not recover capital costs. Due to conflicting guidance in this memorandum, the recovery of capital costs has not occurred.

A memorandum dated June 13, 1999, from the Deputy Associate Solicitor, Division of Parks and Wildlife, to the Comptroller of the NPS stated that “it is the position of the IG that the NPS should be collecting a fair share of the capital costs of a utility system and retaining those funds for park utility system operations.” The memorandum further stated that while the NPS has the legal authority to include capital costs in its utility rate structure, whether the NPS should include such costs was a matter of policy.

This Director's Order (DO 35B) replaces SD 83-2 and sets policy resulting in parks recovering capital costs, in addition to O&M costs, for the provision of utilities to non-NPS users.

2. Utilities Included

The guidelines contained in this DO apply to all utilities produced and conveyed by the NPS and utilized by other users. These utilities generally include, but are not limited to, electricity, fuel, natural gas, propane, water, wastewater, solid waste and recyclables, and communications systems. Agreements for cost reimbursement for services such as plowing snow and for other non-utility activities or services immediately reimbursable are not included in this DO.

3. Determining Costs and Rate Structures

3.1 Facility Maintenance Software System (FMSS)

The Facility Maintenance Software System (FMSS) utilized by the NPS is a Maximo® application designed to manage facilities. This document is not intended to provide instructions for the use of FMSS, but rather to provide a basic introduction for readers unfamiliar with the application.

FMSS is comprised of records to which costs and work activities are tracked. The basic structure is listed below:

Site Records	High level organizational record. A park is a “site”
Location Records	A system of components designed for a purpose. A wastewater utility system is comprised of all the components contributing to the collection, treatment, and disposal of wastewater. A building is a location comprised of all the components that make up a structure and make it functional
Asset Records	The components of a location record. Assets of a wastewater utility system are pipe, manholes, pumps, aerators, lagoons, etc.

Part of the management function of FMSS includes tracking all work and costs associated with different records in the system. Correctly formatted and processed work orders will contain the primary work types.

Work Types	FO-Facility Operations
	FM-Facility Maintenance
	CI-Capital Improvement.

Work orders should contain all the cost data by way of entry of labor, materials, tools, and contracted costs. Work orders may be grouped and submitted to the Project Management Information System (PMIS) projects to facilitate prioritization and funding.

3.2 Rate Types

The structure adopted will be as equitable as possible to all users and should be justified as being the appropriate recovery rate in seeking the Regional Director’s approval. The structure should be carefully considered and determined with the anticipation that the same structure (not the same rates) will be continued into the foreseeable future. If, for some reason, it becomes apparent that a change should be made to the rate structure, that change should be proposed and justified to the Regional Director for approval.

The simplest form of rate structure is the **single unit rate structure**. It is derived by dividing the total costs by the total number of units of utility service produced (e.g., 1,000 gallons of water, cubic yards of waste disposed, etc.). This calculation results in a uniform rate equal to the cost per unit of utility service provided. This unit rate structure is the easiest to determine, is likely to be more accurate in recovering project costs, and is the simplest to manage administratively.

A **variable or differential rate structure**, while more complex, can be used to serve specific goals. For example, where it is possible and desirable to encourage conservation and reduce usage during peak periods, it may be useful to charge higher rates during what would normally be periods of heavy (peak) usage or to have higher rates (inclining block structure) for certain thresholds of usage. This practice would result in a rate structure that varies by time of use, time of day, or time of year (season) and usually requires such things as extensive and advanced metering to accomplish.

A differential rate structure may be particularly valuable in reducing consumption during high rate periods. It serves to balance usage between peak and off-peak periods, as users are financially motivated to reduce utility usage or shift such usage away from peak periods. The rates for this structure should be set with the anticipation that there will be reduced consumption as the customer responds to the price change. In addition to the general benefits of conservation, reduced or redistributed usage may eliminate or at least postpone the need to expand the capacity of the physical utility plant. Similar to the differential rate structure is a usage rate structure used for fuel systems and energy charges. A flat rate per unit measure is set to a maximum usage level. Usage above that level has another flat rate fee. For example, electric power usage up to 1,000 kWh is one fixed rate per kWh, but usage over 1,000 kWh is a different rate.

Another possible rate structure is a **fixed fee plus variable rate**. The fixed fee is assessed for a period of time (monthly, semiannually, or annually) and addresses fixed items in the rate structure that would occur regardless of usage volume; an additional charge is assessed for actual units used. This rate structure is useful in situations where the system has a high percentage of fixed costs that would remain even if usage were reduced. With reduced usage, revenues decrease and would not cover the fixed costs that remain regardless of usage amounts. In those cases, a high unit rate may tend to discourage usage, but costs would not be commensurately reduced, and the park unit might find that the charges do not cover the full costs of operations. For solid waste collection, charges are typically based on a per-container price model or a tipping fee price. The former is a cost calculated per container using an estimated amount of waste collected each year. Tipping fees are fees charged to dump trash at landfills or waste transfer stations. These fees typically consist of a rate per ton of solid waste deposited and are based on weight measurements or the size of the container used to deposit the waste.

4. Rate Basis

4.1 Defining the Utility System

A utility system is comprised of the components required to produce, collect, or transmit services to or for consumers of the service. Utility systems incorporate all components and dedicated supporting structures required to provide the utility or service. In order to define the utility system, it is required to determine the included components of each system and strictly adhere to them in capturing costs. The NPS has adapted many industry standards in its asset management program and continues with this by recommending that a municipal model for utilities be used to determine the boundaries of each utility system.

The utility systems will consist of all structures and equipment which are fully attributable to the support of or the provision of utility services. In FMSS these structures and equipment are the location and asset records described in 3.1

When only part of a structure or facility contributes to the utility service, it is often not appropriate to capture all of the costs. For example, a small lab that is part of a multipurpose building might not be included as a part of the utility system, but the labor of the lab technician or operator and all equipment purchased for that lab would be fully attributable to the utility system. The costs for the lab tech and the equipment should be captured against a utility system record and not the multipurpose building in which it is located. Another example is the case of service connections: In the municipal model, service connections are the responsibility of the “owner” of the facility being served. To illustrate, the homeowner is responsible for paying for the cost of connecting to the utility service in a new home, and is responsible for all maintenance and repair done on that service connection. For more examples, see Table 1 below.

TABLE 1:

Water Treatment System		
	<i>May Include (but not limited to)</i>	<i>Excluding</i>
	Treatment Building and all equipment, Pumping stations and supporting structures (vaults, buildings etc, collection and transmission piping, valves, etc, fire hydrants, storage tanks, intake systems including structures, meters, fencing, standby generators	service connection laterals from corporation tap to facility served,
Waste Water Treatment System		
	<i>May Include (but not limited to)</i>	<i>Excluding</i>
	Treatment Building and all treatment equipment, lift stations and supporting structures (vaults, buildings etc), collection and disposal piping, manholes, fencing, standby generators, valves etc, treatment tanks, solids treatment systems, pump truck	service connections from facility served to main collection line, small septic tank and drainfields such as those serving one residence, vault toilets
Electrical Systems		
	<i>May Include (but not limited to)</i>	<i>Excluding</i>
	Power generating equipment, transmission lines, dedicated fuel tanks, transmission poles, substations, service connections to and including electrical service meters, fencing, bucket truck,	service connections from the meter to the facility or building entrance appurtenance

Fuel Systems	
<i>May Include (but not limited to)</i>	<i>Excluding</i>
Fuel tanks, Fueling stations, Dispensing systems, associated pavement, fuel system piping, containment, protection, security, monitoring, vehicles as tools, fencing, meters	service connections from fuel meter to facility served
Solid Waste Systems	
<i>May Include (but not limited to)</i>	<i>Excluding</i>
Packer truck, Containers, container pads, incinerators, , cleaning stations, recycling facilities, storage facilities, transfer station, fencing	

4.1.1 Fleet

Small fleet assets should be included as costs in workorders at a standard rate and do not need to be tracked separately. However, large, expensive items should be tracked separately for use, replacement, and repairs. Examples of large fleet equipment (asset records) include but are not limited to garbage packer trucks, wastewater pumper trucks, and bucket trucks. Replacement costs will likely be amortized over the life of the vehicle for inclusion in the rate.

4.1.2 Retrieving Cost Data from FMSS

No hierarchical structure in FMSS will be utilized to facilitate the capture or retrieval of cost data from FMSS. Each park must develop a list of all **location records** and **fleet asset records** to be included in the rate base. This list must be submitted to the regional director for approval and may not be altered without cause and shall require subsequent review and approval for changes. The implementation of 35B will include custom reports based on the records included in the rate base. These reports will be designed to capture all the cost data from each FMSS record in the approved rate base for a given utility. The custom reports will show all recorded cost data as per the criteria listed:

- Actual costs for labor, material, and tools for all Facility Operation (FO) work orders and all Facility Maintenance (FM) work orders **that are not a part of a PMIS project**. The included costs will be bracketed by a 1-year time frame (10/1 to 9/30 or other as determined by rate structure).
- All costs for **completed** Facility Maintenance (FM) work orders that are a part of a PMIS project
- All costs for **completed** work orders that are Capital Improvement (CI) work type.

The costs from these reports will be utilized with other non-FMSS data to develop utility rates. Consumption/Usage data (metered amounts or quantities of a service) will be added to a rate development tool. Re-allocation of a costly non-project/non-scheduled task into the fixed capital equipment accounting so that the costs can be amortized and not fully impact the rate structure in a single year will be allowed.

4.1.3 Consumption/Usage Data

The most effective means for accurately measuring utility usage is by incorporating meters, especially for utilities that convey meterable resources such as water or electricity. Meter usage in parks currently ranges from those that are not metered to those that are partially metered. Very few parks are fully metered, although that is the eventual goal. Determining usage by metering is effective for water, wastewater (based on metered water), and electrical systems. The fairest application of this DO will be accomplished with full metering of all users, including metering NPS usage. Other utilities, such as solid waste, are based on size parameters—weight or volume. Usage issues for utilities will be addressed in specific business practices.

While it is desirable to have the most accurate measurement system in place, metering can be expensive to install. It is essential to have meters installed where a variable or differential rate structure is to be used in order to record the variations in usage. It is also likely to prove cost-effective to meter heavy consumers. In addition to the value of meters for determining usage, they also help parks keep meticulous records, monitor periodic usage and usage patterns, and measure system line losses.

Full and precise metering will allow the actual computation of line losses so that these losses can be distributed among all users. Currently, losses are usually only applied to NPS users. This data regarding usage and potential line losses can help guide operation of the system or system components at various stages of the infrastructure life cycle and will ensure operation at continued optimum efficiency for the design life of the system and its components. Metering can also narrow the potential locations where line losses may be occurring. There are typically losses for utilities such as water, wastewater, and power/electrical systems. These losses should normally be within industry standards and prorated for all users.

Under this policy, the implementing system utility charges should be based on estimates where meters do not exist, but a plan to fully meter within five years, if at all possible, should be part of the park's utility plan. Metering will be applied to both NPS and non-NPS users.

5. Cost Recovery

5.1 Capturing Costs

Cost recovery will be accomplished by evaluating the total cost to operate and maintain the utility systems and use these along with consumption data to develop a rate. These rates will be set specifically for each type of utility system, e.g., a rate for water, another for sewer, etc. The single park rate approach is usually the simplest and is preferable for reasons of consistency, transparency, repeatability, and ease of incorporation, but it is not mandated.

The costs required to provide a utility service will be divided into three broad categories:

- Operations and Maintenance (O&M)
- Cyclic Maintenance
- Recapitalization/Capital Improvement (Recap/Cap)

The main differences in the three categories are the size and frequency of the tasks. O&M tends to be tasks performed on an annual or more frequent basis and are typically funded by the park base. Cyclic maintenance tends to be in the frequency range of 1 to

10 years and can be project funded or base funded. Recap/Cap tasks occur much less frequently and are almost always project funded.

The Cost Summary Sheet is shown in 8.Appendix H:

5.1.1 Recovery of O&M costs

The following cost activities fall within the O&M cost activity category:

Administrative Overhead – Administrative overhead costs of 15 percent will be assessed on the O&M portion of the rate base. Administrative costs for capital expenditures will not exceed the limits set by the *National Association of Public Administration Study Report* (NAPA) and the NPS Implementation Plan of 1998.

Operations and Maintenance – O&M rates are calculated on a unit cost basis from the previous year's usage and O&M costs. Any known cost increases, such as wages and increased fees, can be incorporated into the new rate. The NPS will consult standards such as the *American Water Works Association Principles of Water Rates, Fees, and Charges*, the *Water Environment Federation's Financing and Charges for Wastewater Systems, etc.* for determining rate computations.

All expenditures for personal services (e.g., salaries and benefits, travel, supplies and materials, utility fees, vehicle costs, energy usage, and consumables directly associated with the utility will be included in the utility rate base. Indirect labor costs such as annual and sick leave will be determined by adding a leave surcharge to the total accrued expenditures in the project. The **leave surcharge** is computed by multiplying personal service charges (including accrued payrolls) by a percentage factor of 16 percent, which is based on an overall average of indirect costs for leave in the NPS.

Operating costs can be adjusted either up or down to reflect reasonably anticipated changes in costs (e.g., a known increase in electricity charges for pumping) and to take account of **inflationary factors** (e.g., the yearly inflation rate) or the amount of the federal pay comparability increase (where salaries are a significant component of operating costs).

Unanticipated expenses incurred or savings realized will be factored into the following year's rates. End-of-the-year payments by users or rebates by the NPS to equalize actual costs and payments will not be made.

NOTE: All Facility Operations (FO) workorders and all Facility Maintenance (FM) work orders NOT associated with a PMIS project will be considered O&M work.

5.1.2 Recovery of Component Renewal and Cyclic Maintenance Costs

Cyclical Costs – Cyclical maintenance costs are associated with maintenance activities and component renewal that occurs less frequently than once per year but more frequently than every 10 years.

The capture of Cyclic Maintenance costs was allowed prior to DO 35B. These costs were inconsistently captured throughout the NPS and the methods for incorporating them into the rate were inconsistent. With DO 35B, Cyclic Maintenance costs will become part of the rate base.

- **Based Funded Component Renewal** This is FM work type, but not part of a PMIS project The work will be lumped into the O&M category
- **Project Funded Component Renewal.** This type of work will be captured in FMSS workorders and may include both cyclical work as well as repair/rehab projects. The actual costs should be entered into the work orders and will contribute to the rate as an amortized amount based on the design life of the

component. This work will not contribute to the rate until the work order is closed.

- **Equipment Replacement** for identified fleet assets will be captured in FMSS workorder actual costs for replacement and will contribute to the rate as an amortized amount based on the design life of the asset

5.1.3 Recovery of Recapitalization/New Capital Costs

Components that are fixed (in a location) are called fixed capital equipment (FCE). FCE will be considered as a part of the rate based on the following formulation:

1. The summed value of all amortized fixed capital costs over the useful life of the asset (not including assets that operating beyond design life or were installed prior to the year 2000)
2. The **annual** usage over the base time period.

5.1.4 Adding Cyclic Maintenance and Recapitalization/New Capital Costs to the Rate Base

Recap/New Cap – Projects that include new systems and/or major replacement/renewal of partial systems. Does not include single components of a system. The change to the rate for Recap/New Capital work is infrequent and will only occur after a project is completed.

Amortization Schedule:

New Water Treatment Facility: Design Life 30 years...Add $1/30^{\text{th}}$ per year to rate base for 30 years

New Water Distribution System: Design Life 50 years...Add $1/50^{\text{th}}$ per year to rate base for 50 years

Cyclic Maintenance – Includes replacement of the components that make up a system. The contribution to the rate base for Cyclic Maintenance is more frequent and depends on the life of the components. A single component may be replaced several times before the total system exceeds its design life.

Amortization Schedule:

Roof of Water Treatment Plant: Design Life 10 Years...Add $1/10^{\text{th}}$ per year to rate base for 10 years

Garbage Packer Truck: Design Life 15 years...Add $1/15^{\text{th}}$ per year to the rate base for 15 years

Some of the systems installed prior to the implementation of this DO will become a part of the rate basis once this DO is implemented. Any capital improvement project, recapitalization project, or major component renewal work installed after FY1999 will be included and recovered as described in 5.2.1. The Estimated Design Life (EDL) for utility systems will be based on industry standards with EDLs ranging from 10 to 50 years depending on the scale and type of the project. Evaluation of completed projects will include a determination of the correct EDL to apply to the entire project.

5.2 Project Management Information System (PMIS)

PMIS is an application for managing projects. It supports many different funding sources and project types. Projects are typically developed by grouping work orders from FMSS into logical, functional projects and submitting them for review and approval. The primary

funding source types involved in utility projects are Fee Demo, Repair/Rehab, Cyclic Maintenance, and Line Item Construction.

5.2.1 Cost Recovery of Existing Fixed Capital Equipment

Completed capital improvement, recapitalization, and other project work associated with the utility not currently included in the utility rate base will become included with the implementation of DO 35B. Cost Data for projects completed prior to FY2000 is incomplete. FY2000 coincides with maturation of PMIS and the initiation of FMSS, therefore it has been selected as an earliest year for inclusion of fixed capital costs into the rate. Inclusion will be as follows:

- All utility projects completed in FY2000 (or later) will become a part of the rate basis
- Each project will be evaluated for accuracy of completion costs and location record(s) to which it applies
- Projects which include multiple utility systems or include non-utility system components will be evaluated and costs distributed to the correct utility or location record as accurately as possible. Projects costs that are not easily dedicated to a specific utility may not be included in the rate base.
- Each project will be evaluated as to its primary type and be given an industry standard "design life". E.g. a pipe project may have a life of 40 years, a pump station project may have a life of 20 years. The design life will be utilized to calculate a straight-line amortization of the project. This amortized amount will become a part of the yearly rate until the design life has been exceeded.
- No attempt will be made to collect the amortized amounts in the rates prior to the implementation of this DO, i.e. no lump sum or back payments will be collected.

5.2.2 Predicting Rates Beyond the Current Year

PMIS formulated projects will be utilized to predict rate changes. The purpose of this is for planning only and will not be part of any rate basis. Projects in PMIS will be surveyed and included in a rate prediction application to reasonably estimate future rates. While all utility projects 5 years out from the current year will be considered, it should be recognized that the data beyond 2-3 years is subject to change and that the accuracy of the prediction decreases the further out the project is to start. **NOTE: Project costs will not be included in the rates until they are completed**, so typically a project funded to begin in year 200X will not be included in the rate until (200X + 1) and the predictions will consider that.

Prediction of rates assists non NPS users in planning and in formulating feasibility in the case of multi-year agreements.

6. Utility Accounting

Funds received from the non NPS user shall be retained and tracked in two separate accounts. One account shall be Operations and Maintenance receipts and expenditures, and the other shall be for all project related receipts and expenditures. These two separate reimbursable accounts, managed at the park level, will be set up as no-year

funds used only for utility system work in the park from which the revenue was accumulated.

6.1 O&M Account

The O&M Account is comprised of all apportioned receipts associated with Facility Operations (FO) work and all non-project Facilities Maintenance (FM). There is no intent for this reimbursable fund to fully fund the utility operation. Reimbursable O&M account is for the specific utility and must be combined with the park service share of O&M

6.2 Project (Cyclic and Recap/Capital Improvement) Account:

This account is comprised of all apportioned receipts as determined by CLOSED CI work orders and all closed project FM workorders. Funds received from the project portion of the rate may be used to offset PMIS funding requests and/or to pay for unscheduled maintenance not accounted for in the base funding. The funds in the account must be used for utilities in the park from which they were collected.

This account is available for replacement of items predetermined as acceptable for replacement by this account (business practices), and non operational tasks. The tasks/items funded by this account must be tracked back to the project rate structure (amortized).

In the case of unscheduled work that is not part of a PMIS project but needs to be executed, funds from the project account may be used. The work should be outside of typical O&M tasks and the costs should be tracked as a “project”. This work should become added to the rate basis the next year and amortized to be consistent with other project work.

7. Phased Implementation

Director’s Order 35B will result in cost increases for non-NPS users due to the inclusion of cost recovery of capital infrastructure that has been put into place since 1999. There are instances where the full implementation of DO 35B can occur at the date of implementation, but there are many instances where the non-NPS user is under a multi-year contract with the NPS that included an assumption of utility rates during the preparation of the contract. In those instances, the increase of rates can be phased in so that the non-NPS user pays no more than 10% more than they did the year before¹, for each succeeding year, until such time as 1) DO 35B is fully implemented or 2) a new multi-year contract is put into place that shall include full implementation of DO 35B. The maximum payment increase is to be considered separately for each utility type/system. This may also mean that full implementation of DO 35B may be accomplished on different time schedules for different utilities. In cases in which the rate of consumption varies greatly from the previous year, the 10% cap on the increase will be determined by one of the two following scenarios:

1. Decreased Consumption: Will not likely result in a corresponding decrease to the utility rate. In this case, the maximum the non-NPS user shall be will be 10% over the previous year’s invoice for the same utility.
2. Increased Consumption: The invoiced amount shall be apportioned to the new consumption amount such that the invoiced amount would include the 10% capped amount plus the additional consumption at the current year’s invoiced

¹ This presumes that the rate of consumption is that same as the previous year.

rate. Increased consumption may result in some decrease to the rate, since it is based on the cost per 1000 gallons.

INVOICED AMOUNT = (Last year's amount +10%) + (Last Years amount +10%)/last year's consumption * (this year's consumption – last year's consumption)

After full implementation of DO 35B, any unanticipated increases that cause a 10% increase in payments in one year will also be phased in as previously described. This does not necessary equate to a maximum 10% rate increase as the maximum increase is based on the actual amount paid, not the rate. Exceptions to this implementation are covered under "Exceptions" in this Reference Manual.

When the maximum 10% per year implementation is applicable, the 10% will include all cost increases for the utility, not just those attributable to the changes in DO 35B. For example, a park implements DO 35B and now has a recapitalization cost of \$125,000 per year for a water utility. A non-NPS user with 7 years left on a contract that uses 20% of the utility would be phased in as follows:

SAMPLE PHASED IMPLEMENTATION

Initial year of the implementation of DO 35B

Costs for non-NPS user the year prior to DO 35B implementation:	\$100,000
Estimated costs without DO 35B for the next year:	\$104,000
Costs per year attributable to DO 35B (20% of \$125,000)	\$ 25,000
Total full cost for the next year	\$129,000
Maximum cost using the 10% maximum increase	\$110,000
The non-NPS user will be billed at 85% (110000/129000) of the rate	

Year two

Costs without DO 35B	\$108,160
Costs attributable to DO 35B	\$ 25,000
Total cost for year 2	\$133,160
Maximum cost using the 10% maximum increase	\$121,000
The non-NPS user will be billed at 91% (121000/133160) of the rate	

Year three

Costs without DO 35B	\$112,486
Costs attributable to DO 35B	\$ 25,000
Total cost for year 3	\$137,486
Maximum cost using the 10% maximum increase	\$133,100
The non-NPS user will be billed at 97% (133100/137486) of the rate	

Year four

Costs without DO 35B	\$116,975
Costs attributable to DO 35B	\$ 25,000
Total cost for year 4	\$141,975

Maximum cost using the 10% maximum increase	\$146,410
The non-NPS user will be assessed at 100% of the rate[^{KR1}]	

DO 35B is fully implemented in year 4 since the increase is less than 10% from the previous year.

NON-NPS USER IMPLEMENTATION

Utility rates for non-NPS users must be reviewed and updated on a yearly basis. All non-NPS utility users will be notified of increased utility charges at least 60 days before the changes become effective. In order to account for such rate increases in its operations, NPS concessioners, who are typically the largest non-Park user of utilities, shall be notified of any utility changes as a result of DO 35B at least 90 days before the changes become effective.

Costs associated with the provision of utility services to concessioners which are above those of comparable services can be recovered in accordance with the policies and procedures of the Commercial Services Program Rate Administration Program.

Procedures for calculating actual and comparable utility charges and cost distribution across services is done in accordance with NPS-48 Chapter 18, paragraph F. [^{MFH2}] In accordance with NPS 48, a request for adjustment of visitor prices by a concessioner for a utility charge must be submitted to the Superintendent within 15 days and must be acted upon by the NPS within 45 days of the notification.

Adjustments to visitor service rates do not apply when the concessioner purchases the utility from non-park sources or when the National Park Service charges a comparable utility rate.

8. Exceptions

Utility rates are to be adjusted only where non-NPS users' other operating costs are extraordinarily high and cannot practically be absorbed while retaining feasibility of operation. When full cost recovery would raise prices for visitor services to an unacceptable level, or jeopardize the economic viability of a non-NPS user, the user may supply a financial analysis for consideration for an exception. The O&M and cyclical maintenance portions of the rate basis should, in general, not be reduced. With few exceptions, only the project portion should be considered for a rate reduction. For non NPS users, the following procedure to request an exception will be followed:

1. The non NPS user must request an exception. It is incumbent upon the user to justify the request. Additionally, it may be apparent during prospectus development that an exception should be considered for a concessioner. An exception can therefore also be initiated by the NPS Commercial Services Division with accompanying justification for the exception.

2. A request for adjustment of a utility charge exception by a concessioner must be submitted to the Superintendent within 15 days of the concessioner's notification of the rate increase and must be acted upon by the NPS within 45 days of the notification.

2. For existing multi-year agreements, the waiver request must include an analysis of the rates that were assumed at the time of an agreement and an amount of the increase due to the new rates. The disposition of the increased cost in consumer rates must be proposed (e.g., a \$1 increase per day per horse ride; a \$10 increase per day on a room rate) so that the total scope of the rate difference can be analyzed. Any proposed rate reduction, based on a full financial analysis by the affected party with documentation as

to why the reduction is necessary, shall indicate how much subsidy is needed from such a rate reduction.

3. All requests must go through the regional office Business Services Division and be agreed upon by the Regional Director before being submitted for review and determination by the Associate Director (PPFL) and Associate for Business Services.

4. A waiver of the full implementation requirements may be granted only by the Associate Director (PPFL) in consultation with the Associate for Business Services after a careful feasibility analysis is conducted. Exceptions to the full utility rate may, but are not required, for Cooperating Associations as authorized under DO 32. NPS employees residing in NPS housing are charged for NPS-produced utilities in accordance with current law and implementing guidance, including OMB Circular A-45 (policy governing charges for rental quarters and related facilities), the Departmental Quarters Handbook, and NPS-36 (Government Furnished Quarters Guideline).

APPEAL PROCESS

Should a waiver be denied, the non NPS user may submit a formal appeal request with all associated documentation through the Superintendent to the Deputy Director. The appeal request must include new financial feasibility information not previously reviewed by the Associate Director.

Appendix A: Acronym List and Terminology

Acronym Definition

CI	Capital Improvement
CSP	Commercial Services Program
CR	Component Renewal
DO	Director's Order
EDL	Estimated Design Life
FCE	Fixed Capital Equipment
FM	Facility Maintenance
FMSS	Facility Maintenance Software System
FO	Facility Operations
IG	Inspector General
NPS	National Park Service
O&M	Operations and Maintenance
OMB	Office of Management and Budget
ONPS	Operations of the National Park Service
PMIS	Project Management Information System
PPFL	Park Planning, Facilities, and Lands
R/R	Repair and Rehabilitation
SD	Special Directive

Term	Definition
Rate Structure	The method determining how a rate is calculated
Rate Basis	The components (location records, assets, work) that is incorporated into the rate
Rate	The fee per unit of measure (e.g. \$/1000gallons) based on all costs and amount of utility produced. Each user is billed based on a prorated amount calculated from the consumption.
Location Record	Record in FMSS which encompasses a facility such as a building, a utility etc. It is comprised of many components
Asset Record	Record in FMSS that is a component of a Location. Manholes are assets of a wastewater utility location record
Work Orders	Method used in FMSS to describe work, purchases, activities. These are associated with a location record and often an asset record. These can be used to determine the total cost to provide the utility.

Appendix B: Water Utility Business Practice

The rate base for a water utility should include all of the physical attributes that are directly related to the production, treatment, transmission and distribution of potable water to all users. The raw water acquisition through the treatment process and main line transmission all involve physical attributes that serve all users. Distribution and small lateral lines that serve individual facilities are not part of the rate base and any work, repairs or other costs should not be charged as part of the general water utility. Large systems that serve the general public, however, may be appropriate to include in the rate base. For most purposes that dividing line will be the connection (often a corporation cock) between the main line and the service or small lateral line.

The park will positively identify the physical attributes of the water utility so that there will be no question or what is in and out of the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any water utility user upon request. This can be done through a specific FMSS report for those locations identified as physical attributes to the water utility. This report, once generated and approved, will be locked at the Regional level and cannot be modified without the above described approval process. There are no costs associated with this list, but it will provide the basis for which costs may be incurred against. The items in the rate base should include, but are not limited, to such things as raw intake structures and appurtenance, raw water transmission lines, wells, main distribution lines, fire hydrants, main line valves, water treatment buildings and equipment, lift stations, meters, water vaults, fencing, standby generators for the water utility, etc that serve more than one user. The lines that are not in the rate base should be well defined and the users of those lines should be made aware of the different responsibilities. No charges are to be levied against the water utility for those lines serving one users, as defined by each park. Significant vehicles such as garbage packers, sewage pumper trucks, and bucket trucks that are owned and maintained by the park shall be considered as items contributing to the rate base. All other vehicles will be considered tools and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base will have specific estimated design life (EDL) assigned to them for purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for the water utility shall be set using some sort of measuring devices. Normally this would be through a full metering regime of all facilities of both NPS and non-NPS users. A common measurement would be a set charge per 1000 gallons, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways – Operations and Maintenance; Component Renewal; and Recapitalization/New Capital. Capturing any incurred costs will be through a variety of methods, although utilizing FMSS and PMIS data will be the data bases of choice. Operations and Maintenance cost recover is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as Operations and Maintenance costs. Component Renewal and Recapitalization/New Capital projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the estimated design life of the systems on which the work is performed.

Training and assistance with putting this data and forecasting possible future expenditures through FMSS and PMIS will be provided by specific training from the Washington office before actual implementation date of the Director's Order. The data will be specific in each park for water utilities used by non-NPS users.

Operations and Maintenance – typical costs

The direct costs of treatment, storage and distribution of water will vary depending on the type of treatment required, the amount of energy required for pumping and processing, the storage requirements and the distribution system layout. In general, calculations of operating costs should include:

All personal services, supplies, power, and equipment repairs necessary to operate and maintain potable water facilities in accordance with Federal and State standards. Maintenance projects (including replacement of small equipment components of the system) necessary for the operation of the utility funded out of base park operating funds.

The kinds of operation and maintenance costs, above personal services, supplies, and energy costs, which should be included, where appropriate, in calculating the operating costs of water systems include, but are not limited to:

1. Direct supervision of the employees. Do not include costs for billing or indirect supervision. These are covered in the administrative costs.
2. Regular repair and replacement of valves, hydrants, meters and other appurtenances.
3. Yearly inspections and testing, including flow tests of hydrants.
4. Periodic flushing of the system.
5. Replacement of water lines if less than 50 feet.
6. Cleaning water storage reservoirs.
7. Maintenance on raw water reservoirs, intakes and transmission lines.
8. Repair of electrical and mechanical components of the pumping or treatment process.
9. Chemical costs associated with the treatment process.
10. Costs of providing and maintaining standby power generation, including the costs and fees associated with the related fuel storage tanks.
11. Utilities and maintenance costs for any structures housing treatment and pumping equipment.
12. Replacement of cartridge-type filters.
13. Backwash pond cleaning and maintenance, including sludge removal.
14. Laboratory equipment and fees necessary to monitor process, control and obtain reporting data as required by the regulatory agencies.
15. Cleaning and repairing the distribution systems.
16. Winterizing and de-winterizing the systems. This should include any plowing necessary to activate the system by keeping it accessible.
17. Costs of the production of water that does not go to service (process water, losses from leaks).
18. Removal of animals, vegetation and other obstructions (such as ice) from intakes.
19. State certification and licensing fees for plants and training costs for operations.
20. Cost to repair/maintain fences around plants and intakes.
21. Cost of special maintenance assistance/engineers to monitor and improve performance.
22. Cost of maintaining, calibrating, and reading water meters.
23. Cost to maintain and repair specialized fleet equipment
24. Costs of medical surveillance such as hepatitis shots and the use of personal protection equipment.

Component Renewal – typical projects

1. Painting and sealing water storage reservoirs
2. Replacement of electrical and mechanical components of the pumping or treatment process.
3. Replacement of filter media
4. Replacement of roof of water plants or buildings in the rate base
5. Replacement of major pumps
6. Replacement of standby generators in the rate base
7. Replacement of pipes of more than 50 feet but less than full scale replacement
8. Total repainting of buildings in the rate base
9. Major meter acquisition and replacement.
10. Replacement/major repair of fencing around plants or intakes
11. Replacement of well pumps
12. Replacement of large, specialized fleet vehicles

Recapitalization/New Capital – typical projects

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1. Replacement of the water treatment plant
 2. Replacement of large sections of pipe
 3. Expansion of the water system due to changed conditions or treatment requirements

Appendix C: Wastewater Utility Business Practice

The rate base for a wastewater utility should include all of the physical attributes that are directly related to the collection, treatment, and disposal of wastewater from all users. The wastewater collection through the treatment and disposal process, including trunk sewers all involve physical attributes that serve all users. Individual and small collection lines that serve individual facilities are not part of the rate base and any work, repairs or other costs should not be charged as part of the general wastewater utility. Wastewater systems that serve the general public may be included in the rate base. For most purposes that dividing line will be the connection between the main line sewer and the service or small lateral line.

The park will positively identify the physical attributes of the wastewater utility so that there will be no question or what is in and out of the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any wastewater utility user upon request. This can be done through a specific FMSS report for those locations identified as physical attributes to the water utility. This report, once generated and approved, will be locked at the Regional level and cannot be modified without the above described approval process. There are no costs associated with this list, but it will provide the basis for which costs may be incurred against. The items in the rate base should include, but are not limited, to such things as collection lines, manholes, main line valves, wastewater treatment buildings and equipment, lift stations, meters, vaults, fencing, standby generators for the wastewater utility, etc that serve more than one user. The lines that are not in the rate base should be well defined and the users of those lines should be made aware of the different responsibilities. No charges are to be levied against the wastewater utility for those lines serving one users, as defined by each park. Significant vehicles such as garbage packers, sewage pumper trucks, and bucket trucks that are owned and maintained by the park shall be considered as items contributing to the rate base. All other vehicles will be considered tools and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base will have specific estimated design life (EDL) assigned to them for purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for the wastewater utility shall be set using some sort of measuring devices. Normally this would be through a full metering regime of water usage of all facilities of both NPS and non-NPS users and assuming a commensurate ratio of use for wastewater. Meters just measuring wastewater are not reliable and tend to become clogged. A common measurement would be a set charge per 1000 gallons of utilized water, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways – Operations and Maintenance; Component Renewal; and Recapitalization/New Capital. Capturing any incurred costs will be through a variety of methods, although utilizing FMSS and PMIS data will be the data bases of choice. Operations and Maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as Operations and Maintenance costs. Component Renewal and Recapitalization/New Capital projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the estimated design life of the systems on which the work is performed.

Training and assistance with putting this data and forecasting possible future expenditures through FMSS and PMIS will be provided by specific training from the Washington office before actual implementation date of the Director's Order. The data will be specific in each park for water utilities used by non-NPS users.

Operations and Maintenance – typical costs

The direct costs of wastewater collection, treatment and disposal will vary depending upon the type of facilities - septic tanks, absorption fields, lagoons, and complex mechanical treatment plants. In general, calculations of costs should include:

1. All personal services, supplies, power, and equipment repairs necessary to operate and maintain wastewater facilities in accordance with accepted standards for resource protection and compliance with State and Federal regulations.
2. Maintenance projects (including minor replacement of equipment components of the system) necessary for utility operation, regardless of the funding source.

The kinds of operation, maintenance, component, and minor repair costs which should be included, where appropriate, in calculating the operating costs of wastewater utility services include, but are not limited to:

1. Direct supervision of the employees. Do not include costs for billing or indirect supervision. These are covered in the administrative costs.
2. Exercising valves and inspecting for infiltration/exfiltration.
3. Normal operational and maintenance procedures, in accordance with standard practices, required to comply with State and Federal regulations and to provide resource protection.
4. Energy required for pumping and treating wastewater.
5. Cleaning and repairing sewer lines and manholes.
6. Repair of pumps, motors, electrical and mechanical equipment in lift stations and treatment plants.
7. Chemical costs associated with wastewater treatment and disposal.
8. Pumping septic tanks, vault toilets, grease traps, pit toilets and holding tanks. The cost of cleaning vault and pit toilets is not to be included.
9. Cost to maintain and repair specialized fleet equipment
10. Lagoon and percolation pond cleaning.
11. Costs of providing and maintaining standby power generation, including the costs and fees associated with the related fuel storage tanks.
12. Laboratory equipment of fees necessary to monitor process, control and obtain reporting data as required by regulatory agencies.
13. Repair of flow monitoring equipment.
14. Winterizing and de-winterizing the system, including any plowing necessary to access the facilities.
15. Removal of animals, vegetation and other obstructions.
16. Cost of groundwater monitoring wells and analysis of the groundwater.
17. Costs of maintaining fences around treatment facilities.
18. State certification and licensing fees for plants and training costs for operators.
19. Costs of special maintenance assistance/engineers to monitor and improve performance.
20. Costs of medical surveillance such as hepatitis shots and personal protection equipment
21. Repairs/replacement of sewer lines of less than 50 feet

Component Renewal – typical projects

1. Video inspection of lines
2. Replacement of pumps, motors, electrical and mechanical equipment in lift stations and treatment plants
3. Absorption and leach field replacement.
4. Replacement of sludge drying bed media
5. Replacement of filter media
6. Sections of pipe or manholes of more than 50 feet
7. Painting of buildings in the rate base
8. Replacement of generators
9. Replacement of large, specialized fleet vehicles

Capitalization/New Capital – typical projects

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1. Replacement/expansion of sewage treatment plants
 2. Replacement of large sections of piping and manholes
 3. Changing treatment systems due to changing conditions

DRAFT FOR REVIEW

Appendix D: Electrical/Power Utility Business Practice

The rate base for an electric utility should include all of the physical attributes that are directly related to the production, treatment, transmission and distribution of electricity to all users. The power production or acquisition to the individual meter or service entrance involve physical attributes that serve all users. Distribution inside of a building or facility is not part of the rate base and any work, repairs or other costs should not be charged as part of the general water utility. For most purposes that dividing line will be the meter or, for lack of a meter, the service entrance connection to a facility. Care must be taken in what is put into or out of the rate base when the generator facilities are an integral part of a building or facility, especially if no power is exported from that facility to the general park grid.

The park will positively identify the physical attributes of the electric utility so that there will be no question or what is in and out of the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any water utility user upon request. This can be done through a specific FMSS report for those locations identified as physical attributes to the electric utility. This report, once generated and approved, will be locked at the Regional level and cannot be modified without the above described approval process. There are no costs associated with this list, but it will provide the basis for which costs may be incurred against. The items in the rate base should include, but are not limited, to such things as generators, stand-by generators, fuel storage, and hydro facilities solely for producing power, solar panels, wind turbines, sub-stations, transformers, power lines, power poles, and metering devices. The lines that are not in the rate base should be well defined and the users of those lines should be made aware of the different responsibilities. Significant vehicles such as garbage packers, sewage pumper trucks, and bucket trucks that are owned and maintained by the park shall be considered as items contributing to the rate base. All other vehicles will be considered tools and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base will have specific estimated design life (EDL) assigned to them for purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for the electric utility shall be set using some sort of measuring devices. Normally this would be through a full metering regime of all facilities of both NPS and non-NPS users. A common measurement would be a set charge per kilowatt hour, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways – Operations and Maintenance; Component Renewal; and Recapitalization/New Capital. Capturing any incurred costs will be through a variety of methods, although utilizing FMSS and PMIS data will be the data bases of choice. Operations and Maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as Operations and Maintenance costs. Component Renewal and Recapitalization/New Capital projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the estimated design life of the systems on which the work is performed.

Training and assistance with putting this data and forecasting possible future expenditures through FMSS and PMIS will be provided by specific training from the Washington office before actual implementation date of the Director's Order. The data will be specific in each park for water utilities used by non-NPS users.

Operations and Maintenance – typical costs

The direct costs of electrical generation and distribution will vary depending upon the type of generation (hydro, diesel, propane, etc.), the length of transmission, and the size of the generator. In general, calculations of operating costs should include:

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1. All personal services, supplies, power, and equipment repairs necessary to operate and maintain electricity system facilities in accordance with Federal and State standards.
 2. Maintenance projects (including replacement of minor equipment components of the system) necessary for the operation of the utility, regardless of the funding source.

The kinds of operation, maintenance, and minor repair costs which should be included, where appropriate, in calculating the operating costs of electricity systems include but are not limited to:

1. Direct supervision of the employees. Do not include costs for billing or indirect supervision. These are covered in the administrative costs
2. Inspections.
3. Maintenance of turbines, transformers, and switch gear.
4. Maintenance of distribution lines and meters.
5. Maintenance of engines and generators.
6. Cost of fuel and antifreeze.
7. Winterizing and de-winterizing the system, including any plowing necessary to access the facilities
8. Removal of animals, vegetation and other obstructions from hydro intakes.
9. Costs of medical surveillance and personal protection equipment.
10. Costs of special maintenance assistance/engineers to monitor and improve performance
11. Cost of fence repair.
12. Cost and fees associated with underground or above ground storage tanks for fuel storage.
13. Cost of any permits.
14. Cost of any losses due to transmission.
15. Cost of monitoring equipment.
16. Cost of meters, but not meter bases
17. Cost to maintain and repair specialized fleet equipment

Component Renewal – typical projects

1. Replacement of transformers
2. Replacement of individual power poles
3. Component Renewal of roofs, painting, etc of buildings associated with the utility
4. Replacement of smaller generators
5. Replacement of meter reading devices
6. Replacement of meters
7. Replacement of large, specialized fleet vehicles

Capitalization/New Capital – typical projects

1. Replacement of power lines
2. Mass replacement of power poles
3. Replacement of large generators
4. Major intake work
5. Installation of new or additional generating facilities, including renewable energy

Appendix E: Solid Waste Utility Business Practice

SOLID WASTE COLLECTION AND DISPOSAL

The rate base for a solid waste utility should include all of the physical attributes that are directly related to the collection, transfer, and disposal of solid waste, including recyclable solid waste that serves multiple users.

The park will positively identify the physical attributes of the solid waste utility so that there will be no question or what is in and out of the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any water utility user upon request. This can be done through a specific FMSS report for those locations identified as physical attributes to the water utility. This report, once generated and approved, will be locked at the Regional level and cannot be modified without the above described approval process. There are no costs associated with this list, but it will provide the basis for which costs may be incurred against. The items in the rate base should include, but are not limited, to such things as solid waste transfer stations, large solid waste containers, solid waste truck/trailer washing facilities, solid waste storage rooms, and recycling storage areas, including associated fencing that serve more than one user. Significant vehicles such as garbage packers, sewage pumper trucks, and bucket trucks that are owned and maintained by the park shall be considered as items contributing to the rate base. All other vehicles will be considered tools and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base will have specific estimated design life (EDL) assigned to them for purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for the solid waste utility shall be set using some sort of measuring devices. Normally this would be through a weight (or volume) system. A common measurement would be a per ton rate, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways – Operations and Maintenance; Component Renewal; and Recapitalization/New Capital. Capturing any incurred costs will be through a variety of methods, although utilizing FMSS and PMIS data will be the data bases of choice. Operations and Maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as Operations and Maintenance costs. Component Renewal and Recapitalization/New Capital projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the estimated design life of the systems on which the work is performed.

Training and assistance with putting this data and forecasting possible future expenditures through FMSS and PMIS will be provided by specific training from the Washington office before actual implementation date of the Director's Order. The data will be specific in each park for water utilities used by non-NPS users

Operations and Maintenance – typical costs

Solid waste collection, recycling, and disposal costs will vary with the geographical distribution of the generating points, the volume generated at each location, and the distance to the disposal site. In general, calculations of operating costs should include:

1. All personal services, supplies, energy, fuel, and equipment repairs necessary to operate and maintain solid waste collection and disposal facilities in accordance with Federal and State standards.

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2. Maintenance projects necessary for the operation of the utility, regardless of the funding source.

The kinds of operation, maintenance, and minor repair costs which should be included, where appropriate, in calculating the operating costs of solid waste systems include, but are not limited to:

1. Direct supervision of the employees. Do not include costs for billing or indirect supervision. These are covered in the administrative costs.
2. Inspections.
3. Personnel and maintenance costs for collection/transportation equipment.
4. Personnel and maintenance costs for excavation and equipment at NPS operated landfills.
5. Disposal costs at commercial disposal sites or costs for permits.
6. Fence repair at NPS landfills or transfer stations.
7. Cost of incineration or disposal outside of the park.
8. Cleaning of receptacles and vehicles.
9. Cost of litter collection
10. Cost of a weighing program to confirm weights.
11. Winterizing and de-winterizing the system, including any plowing necessary to access the facilities
12. Costs of recycling programs.
13. Costs of medical surveillance such as hepatitis shots and personal protection equipment
14. Costs of special maintenance assistance/engineers to monitor and improve performance
15. Cost to maintain and repair replace specialized fleet equipment

Component Renewal – typical projects

1. Cost of storage containers, bins and liners
2. Major repair of transfer stations or storage buildings in the rate base
3. Replacement of large numbers of solid waste containers
4. Replacement of cleaning equipment
5. Replacement of large, specialized fleet vehicles

Capitalization/New Capital – typical projects

1. Replacement/Construction of transfer stations or solid waste storage facilities

Appendix F: Fuel Systems Utility Business Practice

NATURAL GAS, PROPANE AND FUEL SYSTEMS

The rate base for a gas or fuel utility should include all of the physical attributes that are directly related to the acquisition, storage, measuring and distribution of gas or fuel to all users. The gas or fuel acquisitions through the delivery process all involve physical attributes that serve all users. Distribution and small lateral lines that serve individual facilities are not part of the rate base and any work, repairs or other costs should not be charged as part of the general water utility. For most purposes that dividing line will be the gas or fuel meter at the facility.

The park will positively identify the physical attributes of the gas or fuel utility so that there will be no question or what is in and out of the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any water utility user upon request. This can be done through a specific FMSS report for those locations identified as physical attributes to the gas or fuel utility. This report, once generated and approved, will be locked at the Regional level and cannot be modified without the above described approval process. There are no costs associated with this list, but it will provide the basis for which costs may be incurred against. The items in the rate base should include, but are not limited, to such things as storage facilities, distribution lines, valves, meters, fencing, associated buildings or pads associated with the utility, and dispensing facilities for the gas or fuel utility, etc that serve more than one user. The lines that are not in the rate base should be well defined and the users of those lines should be made aware of the different responsibilities. Significant vehicles such as garbage packers, sewage pumper trucks, and bucket trucks that are owned and maintained by the park shall be considered as items contributing to the rate base. All other vehicles will be considered tools and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base will have specific estimated design life (EDL) assigned to them for purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for the gas or fuel utility shall be set using some sort of measuring devices. Normally this would be through a full metering regime of all facilities of both NPS and non-NPS users. A common measurement would be a set charge per cubic foot or gallon, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways – Operations and Maintenance; Component Renewal; and Recapitalization/New Capital. Capturing any incurred costs will be through a variety of methods, although utilizing FMSS and PMIS data will be the data bases of choice. Operations and Maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as Operations and Maintenance costs. Component Renewal and Recapitalization/New Capital projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the estimated design life of the systems on which the work is performed.

Training and assistance with putting this data and forecasting possible future expenditures through FMSS and PMIS will be provided by specific training from the Washington office before actual implementation date of the Director's Order. The data will be specific in each park for water utilities used by non-NPS users.

Operations and Maintenance – typical costs

The direct costs of gas and fuel supply and distribution will vary depending upon the type of fuel, the length of transmission, and the size of the storage facilities. In general, calculations of operating costs should include:

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1. All personal services, supplies, power, and equipment repairs necessary to operate and maintain fuel system facilities in accordance with Federal and State standards.
 2. Maintenance projects (including replacement of small equipment components of the system) necessary for the operation of the utility, regardless of the funding source.

The kinds of operation, maintenance, component renewal/repair and rehabilitation costs which should be included, where appropriate, in calculating the operating costs of electricity systems include but are not limited to:

1. Direct supervision of the employees. Do not include costs for billing or indirect supervision. These are covered in the administrative costs
2. Inspections.
3. Maintenance of tanks and lines.
4. Maintenance of distribution lines and meters.
5. Winterizing and de-winterizing the system, including any plowing necessary to access the facilities
6. Costs of medical surveillance and personal protection equipment.
7. Costs of special maintenance assistance/engineers to monitor and improve performance
8. Cost of fence repair.
9. Cost and fees associated with underground or above ground storage tanks for fuel storage.
10. Cost of any permits.
11. Cost of any losses due to transmission.
12. Cost of monitoring equipment.

Component Renewal – typical projects

1. Replacement of meters
2. Replacement of dispensing equipment
3. Component Renewal of roofs, painting, etc of buildings associated with the utility
4. Major fence repairs
5. Replacement of cathodic protection

Capitalization/New Capital – typical projects

1. Replacement of distribution lines
2. Replacement of storage tanks
3. Increasing lines or storage facilities
4. Major fence replacement/repair
5. Replacement of buildings/facilities associated with the utility

Appendix G: Communication Systems Utility Business Practice

COMMUNICATIONS SYSTEMS

The rate base for a communications utility should include all of the physical attributes that are directly related to the acquisition, storage, measuring and distribution of communication services to all users. The communications utilities through the delivery process all involve physical attributes that serve all users. Distribution and small lateral lines that serve individual facilities are not part of the rate base and any work, repairs or other costs should not be charged as part of the general water utility. For most purposes that dividing line will be the central receiving device at the facility.

The park will positively identify the physical attributes of the communications utility so that there will be no question or what is in and out of the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any water utility user upon request. This can be done through a specific FMSS report for those locations identified as physical attributes to the communications utility. This report, once generated and approved, will be locked at the Regional level and cannot be modified without the above described approval process. There are no costs associated with this list, but it will provide the basis for which costs may be incurred against. The items in the rate base should include, but are not limited, to such things as transmitter stations, repeater stations or towers, standby generators and associated fuel storage, distribution lines, meters, fencing, pedestals, associated buildings or pads associated with the utility, and PBX type facilities for the communications utility, etc that serve more than one user. The lines that are not in the rate base should be well defined and the users of those lines should be made aware of the different responsibilities. Hand held radios should not be part of the rate base for the utility. Significant vehicles such as garbage packers, sewage pumper trucks, and bucket trucks that are owned and maintained by the park shall be considered as items contributing to the rate base. All other vehicles will be considered tools and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base will have specific estimated design life (EDL) assigned to them for purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for the communications utility shall be set using some sort of measuring devices. Normally this would be through a full metering regime of all facilities of both NPS and non-NPS users. A common measurement would be a set charge per specific time of use, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways – Operations and Maintenance; Component Renewal; and Recapitalization/New Capital. Capturing any incurred costs will be through a variety of methods, although utilizing FMSS and PMIS data will be the data bases of choice. Operations and Maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as Operations and Maintenance costs. Component Renewal and Recapitalization/New Capital projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the estimated design life of the systems on which the work is performed.

Training and assistance with putting this data and forecasting possible future expenditures through FMSS and PMIS will be provided by specific training from the Washington office before actual implementation date of the Director's Order. The data will be specific in each park for water utilities used by non-NPS users.

Operations and Maintenance – typical costs

The direct costs of communication systems will vary depending upon the type of communication system (radio, telephone, etc.), the length of transmission, and the size of the system. In general, calculations of operating costs should include:

1. All personal services, supplies, power, and small equipment repairs necessary to operate and maintain communication system facilities in accordance with Federal and State standards.
2. Maintenance projects (including minor replacement of equipment components of the system) necessary for the operation of the utility, regardless of the funding source.

The kinds of operation, maintenance and component renewal/repair and rehabilitation costs which should be included, where appropriate, in calculating the operating costs of communications systems include but are not limited to:

1. Direct supervision of the employees. Do not include costs for billing or indirect supervision. These are covered in the administrative costs
2. Inspections.
3. Maintenance of equipment and lines.
4. Maintenance of distribution lines and meters.
5. Winterizing and de-winterizing the system, including any plowing necessary to access the facilities
6. Costs of medical surveillance and personal protection equipment.
7. Costs of special maintenance assistance/engineers to monitor and improve performance
8. Cost of fence repair.
9. Cost and fees associated with underground or above ground storage tanks for fuel storage.
10. Cost of any permits.
11. Cost of any losses due to transmission
12. Cost of monitoring equipment

Component Renewal – typical projects

1. Replacement of meters
2. Component Renewal of roofs, painting, etc of buildings associated with the utility
3. Major fence repairs
4. Replacement of cathodic protection
5. Replacement of standby generators and tanks

Capitalization/New Capital – typical projects

1. Replacement of distribution lines
2. Replacement of storage tanks
3. Increasing lines or storage facilities
4. Major fence replacement/repair
5. Replacement of base stations
6. Additional towers or repeaters
7. Upgrade of PBX type systems
8. Costs associated with facilities for upgrading the available technology

Appendix H: Utility Rate Computation Summary

UTILITY RATE COMPUTATION SUMMARY		
PREPARER'S NAME:	Steve Whitesell	
PARK NAME:	Great National Park	
DATE PREPARED:	10/01/09	
UTILITY:	Water	
DURATION OF RATE:	Jan 1-Dec 31, 2010	
TOTAL ANNUAL UNITS PRODUCED:	XXXX	
UNIT OF MEASURE (ie - 1000's gallons, tons, kWh)	1000 gal	
OPERATIONS AND MAINTENANCE		
1 PERSONAL SERVICES - (PAY AND BENEFITS)		
2 LEAVE SURCHARGE - 16% OF LINE 2		
3 GSA LEASED SPACE		
4 PARTS, MATERIALS, SUPPLIES, TOOLS, VEHICLE TOOL COSTS		
6 FEES AND CONTRACTED SERVICES		
7 ENERGY COSTS (INCLUDING FUEL COSTS BUT NO VEHICLE FUEL)		
8 TRAINING		
9 ALL OTHER EXPENDITURES		
10 TOTAL OF LINES 1 THROUGH 9		
11 15% OF LINE 10		
12 COSTS (TOTAL OF LINES 10 AND 11)		
13 NUMBER OF UNITS PRODUCED		
14 O&M RATE (DOLLARS PER UNIT OF MEASURE) LINE 12 DIVIDED BY LINE 13)		per unit
CYCLIC MAINTENANCE (Amortized portion)		
15 YEARLY CYCLIC MAINTENANCE (FROM CYCLIC MAINTENANCE AMORTIZATION SCHEDULE)		
16 COMPONENT RENEWAL RATE (LINE 15 DIVIDED BY LINE 13)		per unit
RECAPITALIZATION/NEW CAPITAL		
17 (FROM RECAPITALIZATION/NEW CAPITAL AMORTIZATION SCHEDULE)		
18 CAPITAL RECOVERY RATE (LINE 17 DIVIDED BY LINE 13)		per unit
UTILITY RATE		
19 TOTAL RATE ((LINE 12 + LINE 15 + LINE 17) DIVIDED BY LINE 13)		per unit